Solar System Exploration

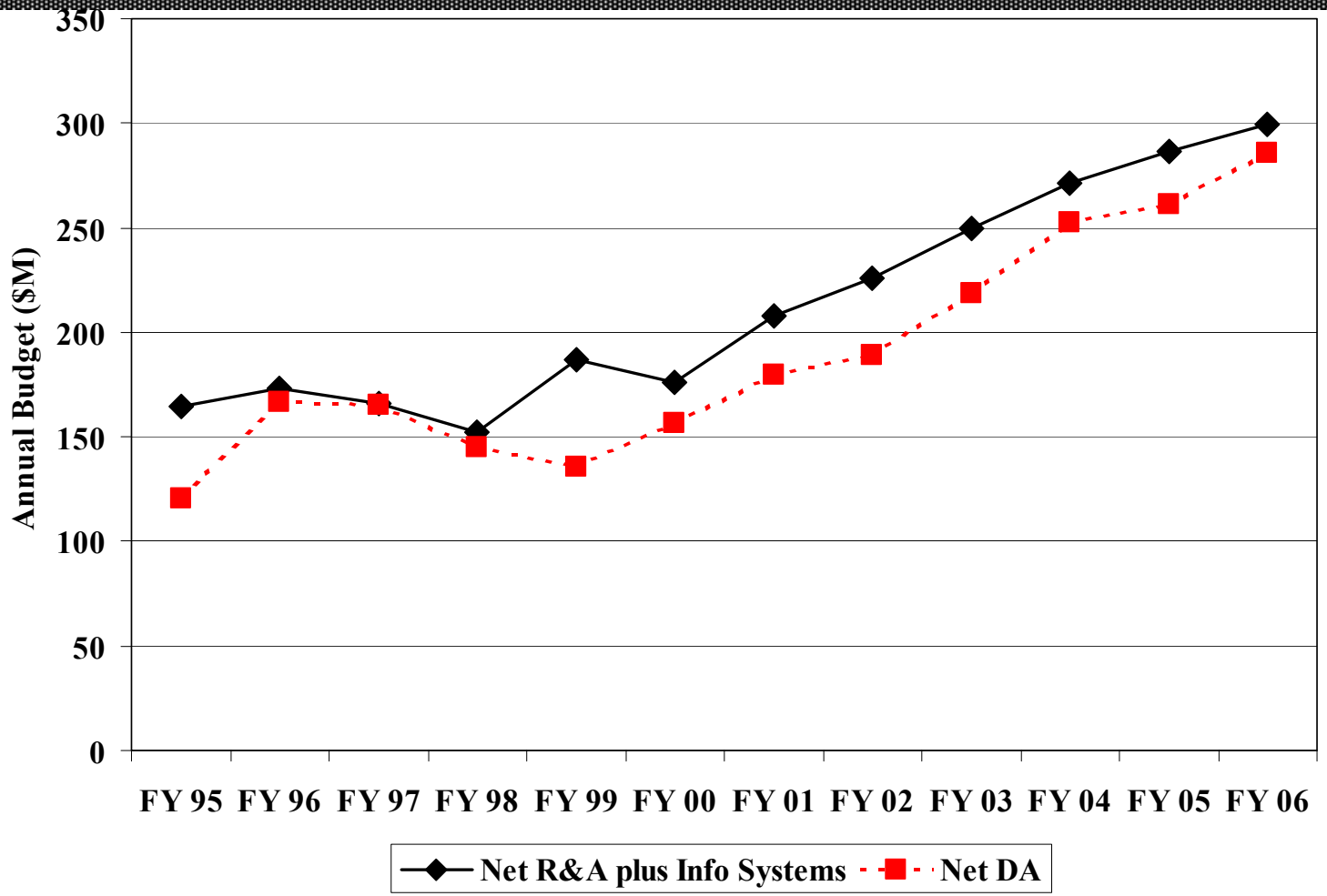
New Frontiers Program:

- **New mission line, planned as a new start in 2003;**
- **awaiting authorization/signed bill by Congress**
- **5 destinations will be advertised as found in the planetary decadal survey, NOT one single destination**

New Horizons Mission:

- **Still in Study/Definition Phase ("Phase B")**

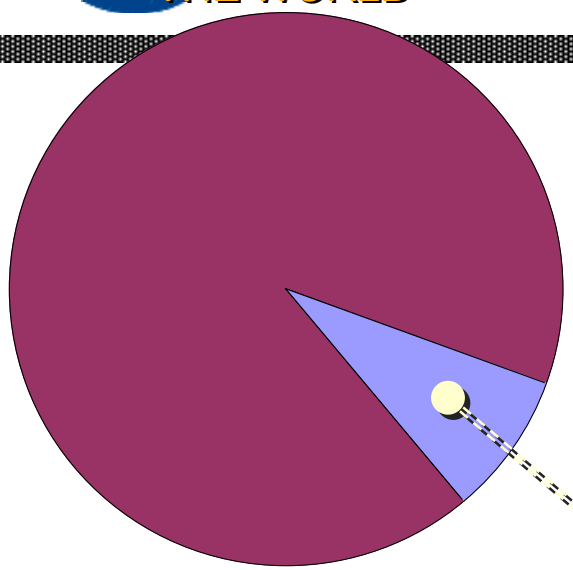
Research and Analysis (R&A) and Data Analysis (DA) Budget Trends



- NOTE: "DA" includes data analysis only, without science operations, data processing, or data archiving

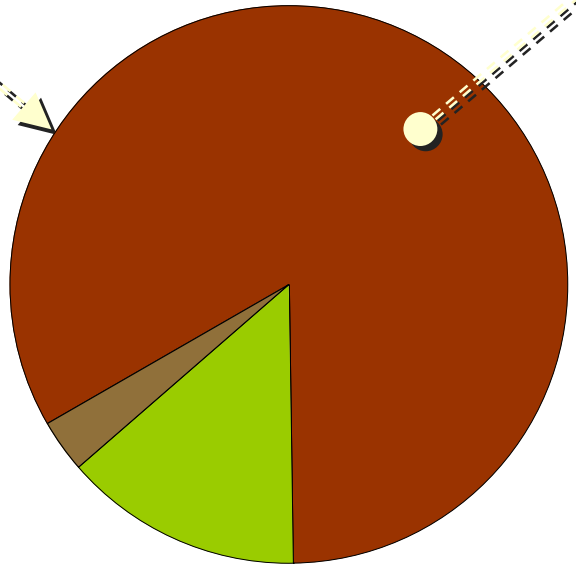
2001 Science News Metrics

Contributions to World Discoveries and Technological Achievements



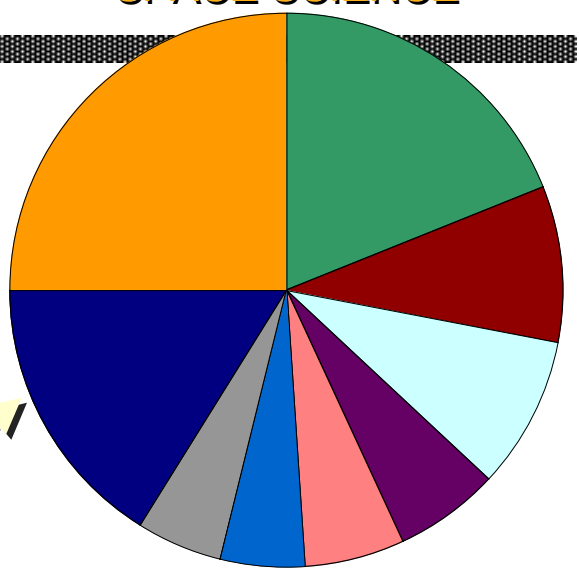
THE WORLD

- Rest of the World (91.1%)
- NASA (8.3%) (OF THIS)



NASA

- Space Science (83%) (OF THIS)
- Earth Science (14%)
- Microgravity (3%)



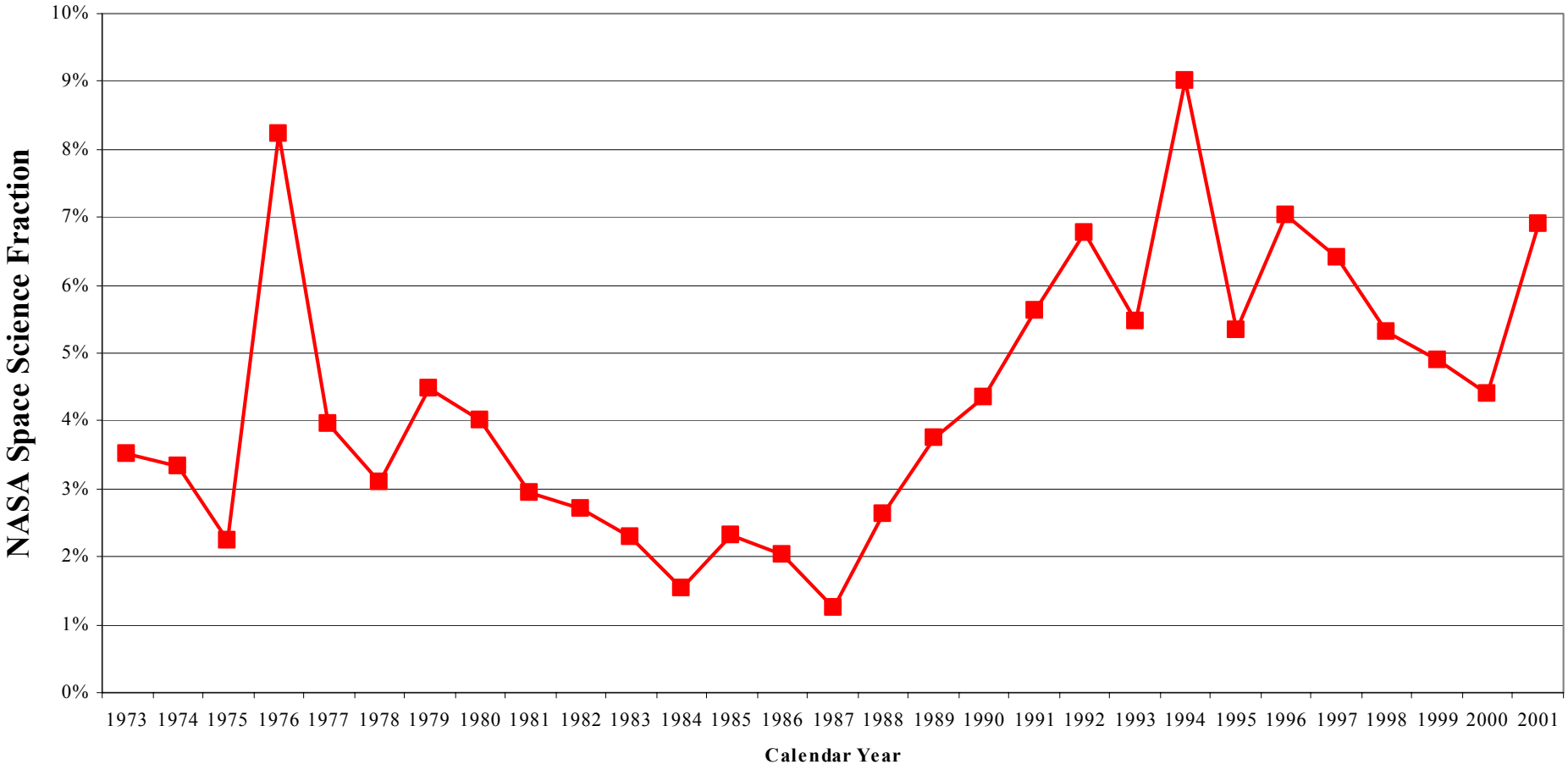
SPACE SCIENCE

- HST (25%)
- Chandra (19%)
- MGS (9%)
- Balloon Program (9%)
- Galileo (6%)
- NEAR (6%)
- Astrobiology (5%)
- ISTP (5%)
- Other (16%)*

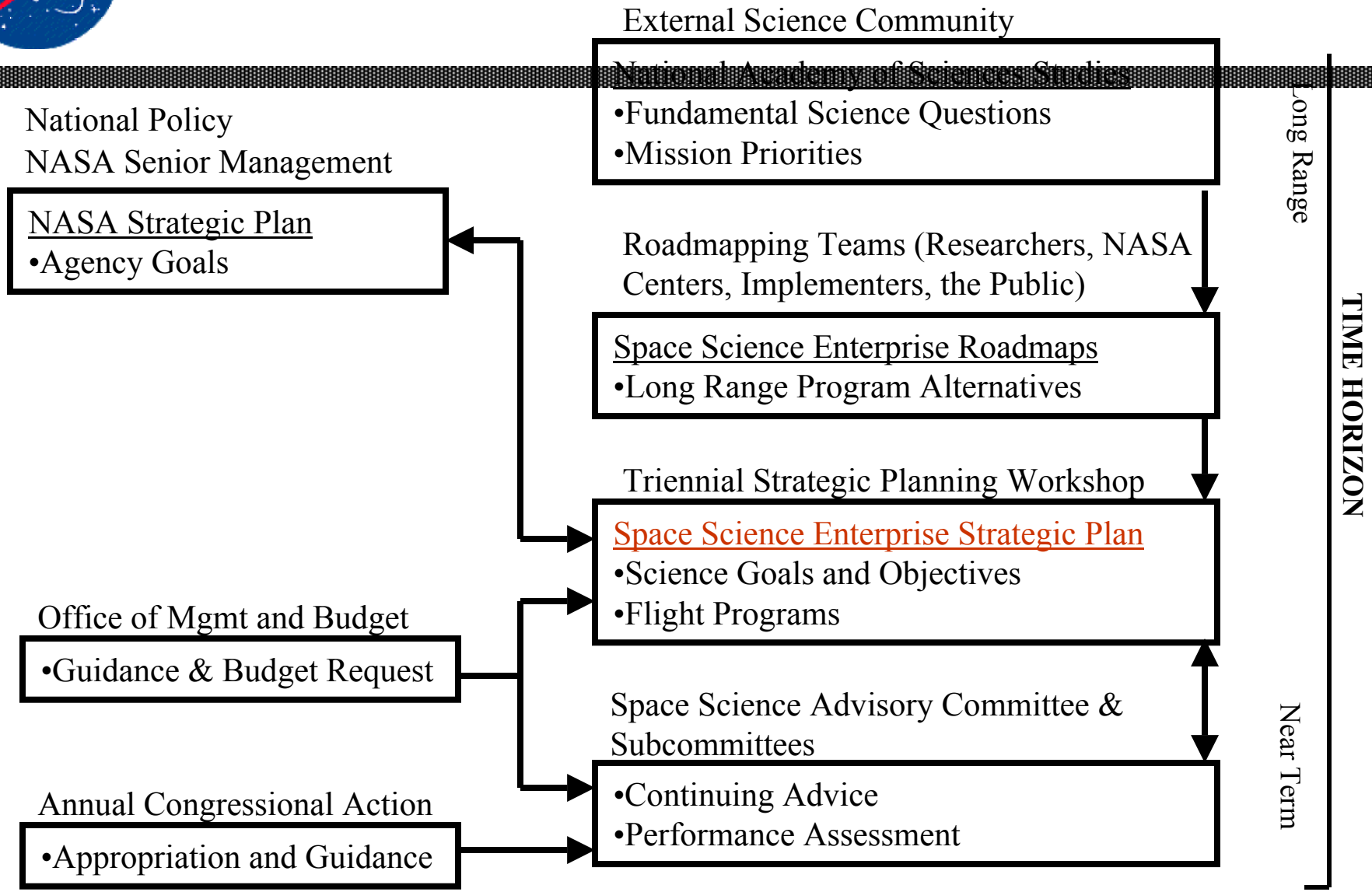
* Includes Cosmochemistry (3.5%), FUSE (3.5%), SWAS (3.5%), XTE (2.1%), Cassini (1.8%), ACE (.4%), IMAGE (.4%), TRACE (.4%) and DS-1 (.4%).

Annual Science Highlights Generated by NASA Space Science

NASA Space Science Contribution to Science News Highlights



Space Science Enterprise Strategic Planning



Strategic Plan 2003 Schedule

Initiate NRC science surveys	**Jan 01**
Initiate roadmap phase 1 activities	**Jul-Dec 01**
NRC science survey results available	**Jun-Jul 02**
Mid-term roadmap status at SScAC	**6 Aug 02**
Roadmapping results due to HQ	**3 Sep 02**
Consensus workshop	**6-8 Nov 02**
First draft plan complete	**20 Dec 02**
First plan draft circulated for review (SSB, SScAC)	**24 Jan 03**
SSB comments on draft due	**May 03**
Final SScAC review	**Jul 03**
Plan goes into production	**Aug 03**
Plan released	**Sep 03**

02no23

Clarifying Research Focus Areas

As a result of the Strategic Planning process - and required by the President's Management Agenda and Congress's Government Performance and Results Act (GPRA) - NASA has clarified science objectives and "Research Focus Areas"

OSS Theme	Science Objectives	Research Focus Areas (RFA's)
Sun-Earth Connection	1. Define the origins and societal impacts of variability in the Sun-Earth Connection.	(a)Develop the capability to predict solar activity and the evolution of solar disturbances as they propagate in the heliosphere and affect the Earth. (b)Specify and enable prediction of changes to the Earth's radiation environment, ionosphere, and upper atmosphere. (c)Understand the role of solar variability in driving space climate and global change in the Earth's atmosphere.
Solar System Exploration	1. Explore the terrestrial space environment to discover potential hazards to Earth.	(a)Determine the inventory and dynamics of bodies that may pose an impact hazard to Earth. (b)Determine the physical characteristics of comets and asteroids relevant to any threat they may pose to Earth.

Research Focus Areas

The 2003 issue of the "Research Opportunities in Space Science" (ROSS) NASA Research Announcement (NRA) describes the selection criteria and the use of the "Research Focus Areas" in more detail

NSF-NASA Coordination: Joint NSF-NASA Advisory Committee

The first meeting of the "National Astronomy and Astrophysics Advisory Committee" (NAAAC) was held on Oct. 2-3, 2002

NAAAC Membership:

- **Bob Gehrz (chair), Alan Dressler, Caty Pilachowsky, Garth Illingworth, Abhijit Saha, Brad Peterson, Jim Klimchuk**

Discussion topics:

- **OMB Interests (D. Radzanowski)**
- **National Research Council/COMRAA perspective (C. Canizares)**
- **NSF-NASA Cooperation (W. Van Citters and G. Riegler and NSF-NASA Staff): 13 areas of current cooperation, plus 6 potential areas of cooperation**

NSF-NASA Areas of Cooperation

2MASS

Antarctic Meteorite Program

Comparative Planetary Atmospheres

Life in Extreme Environments (LExEn)

Astrobiology Science & Technology for Exploring Planets (ASTEP)

Education and Outreach

Sloan Digital Sky Survey (SDSS)

NASA Infrared Telescope Facility (IRTF)

NStars Database

Complementary Ground-based Data at NOAO

Advanced Technology Solar Telescope (ATST)

Long-duration Ballooning

NASA/NSF Cooperative Efforts in Space and Atmospheric Sciences

NSF-NASA Interagency Initiatives

New and proposed future programs:

- **Laboratory Astrophysics**
- **Gravitational Wave Modeling**
- **National Virtual Observatory (NVO)**

Potential areas of cooperation:

- **Technology Development**
- **Student Training Instrumentation**
- **Quarks to Cosmos (Turner Committee Report)**

Recommendations from the NAAAC's First Meeting

The NAAAC paid tribute to the many ongoing types of cooperation between NSF and NASA

Regarding the Large Synoptic Survey Telescope (LSST), the NAAAC recommended limited NASA contributions to a predominantly NSF-led effort:

- **"It is expected that NOAO will lead the construction of the LSST,. . .**
- **"NASA's opportunity is to contribute to the development of the very large format detector array and the processing/archiving of data, which will be at the terabyte-per-day [rate]. "**

A NASA response to this recommendation for limited NASA contributions has already been discussed with the Earth Sciences Enterprise ("Code Y"):

- **M. Maiden (Code Y) offered to organize a workshop in which know-how about terabyte-per-day data processing and archiving can be transferred from NASA to NSF and the ground-based community**

Topics for the Second NAAAC Meeting

The second NAAAC Meeting will take place in April 2003

This meeting will address Challenges to Joint NSF-NASA Programs

- **Differing agency cultures ("science" vs. "mission", facilities vs. finite-duration projects, etc.)**
- **Differing budget processes at NSF and NASA**
- **Differing advisory structure and role**
- **Different approach to long range planning**
- **Different eligibility for proposers**
- **Different views about responsibility for providing services and facilities (supercomputing, antarctic balloon facility, etc.)**

NASA has Openings for Visiting and Permanent Positions

At NASA Headquarters, several visiting and permanent civil service positions are open - or about to be announced - in Astrophysics, Solar System Exploration, and Sun-Earth Connection

At NASA Ames Research Center (Moffett Field, CA), there are openings in Life Science, Earth Science, and Astronomy and Astrophysics

Guenter R. Riegler

Director

Astrobiology and Space Research

NASA Ames Research Center